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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,677	05/31/2000	Marcos N. Novaes	POU9-2000-0004-US1	2880

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EXAMINER

WON, MICHAEL YOUNG

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/583,677

Applicant(s)

NOVAES ET AL.

Examiner

Michael Y Won

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 27, and 51 have been amended and new claims 75 and 76 have been added.
2. Claims 1-3 and 6-76 have examined and are pending with this action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3 and 6-75 are rejected under 35 U.S.C. 102(e) as being anticipated by Wipfel et al. (US 6338112 B1).

INDEPENDENT:

As per claims 1, 27, and 51, Wipfel teaches a system of managing clusters of a computing environment (see title), said system comprising: a registry component (see Fig.6, "registry 600") to provide global data storage for global data of a cluster of said computing environment, said cluster including a plurality of nodes of said computing environment (see Fig.1 and col.5, lines 29-31) and said global data comprising configuration data of multiple nodes of the plurality of nodes (see Fig.2, #224; Fig.6; and col.14, lines 1-8); configuration component (see Fig.2, #216) to maintain data locally on at least one node of said plurality of nodes (see Fig.2, #218 and col.8, lines 11-14), and to store global data in said registry component (see col.6, lines 38-44 and col.8, lines 62-64); liveness component to provide status of one or more communications paths of said cluster (see Fig.3; col.9, lines 12-22; and col.11, lines 25-34), said liveness component being dependent upon said registry component and said configuration component (see col.9, line 32 to col.11, line 34); a group services component to provide one or more services to one or more other components of said cluster (see col.9, lines 7-9), said group services component being dependent on said registry component (see col.9, lines 45-48: probing is dependent on value stored in register), said configuration component and said liveness component (see col.9, line 32 to col.11, line 34); and a resource management component to provide communications

to one or more resource controllers of said cluster (see col.8, line 36 to col.9, line 11), said resource management component being dependent on said registry component, said configuration component and said group services component (see col.9, line 32 to col.11, line 34).

DEPENDENT:

As per claims 2, 3, 6, 28-30, and 52-54, Wipfel further teaches wherein said registry component is functionally dependent on said group services component for at least one type of operation (see col.9, lines 45-48: probing), wherein said at least one type of operation comprises a write operation (see col.9, lines 48-52: "updated").

As per claims 7, 31, and 55, Wipfel further teaches wherein said being dependent comprises being functionally dependent (It is inherent that since Wipfel discusses an operational relationship (see col.9, lines 18-19), all dependencies are functionally dependent).

As per claims 8, 32, and 56, Wipfel further teaches wherein said registry component lacks a data dependency on said configuration component, said liveness component, said group services component and said resource management component (see col.9, lines 17-22).

As per claims 9, 33, and 57, Wipfel further teaches wherein said configuration component has a data dependency on said registry component (see col.6, line 67 to col.7, line 6).

As per claims 10, 13, 34, 37, 58, and 61, Wipfel further teaches wherein said liveness component has a data dependency on said registry component and configuration component (see col.9, line 32 to col.11, line 34).

As per claims 11, 14, 35, 38, 59, and 62, Wipfel further teaches wherein said group services component has a data dependency on said registry component and configuration component (see col.9, line 32 to col.11, line 34).

As per claims 12, 15, 36, 39, 60, and 63, Wipfel further teaches wherein said resource management component has a data dependency on said registry component and configuration component (see col.9, line 32 to col.11, line 34).

As per claims 16, 40, and 64, Wipfel further teaches wherein said cluster includes a plurality of nodes, and wherein said registry component is included on less than all nodes of said plurality of nodes (see col.9, lines 42-45: "and/or a structure").

As per claims 17, 41, and 65, Wipfel further teaches wherein said configuration component is started by at least one operating system of at least one node of said one or more nodes of said computing environment (see col.6, lines 52-59).

As per claims 18, 42, and 66, Wipfel further teaches wherein said configuration component is responsible for starting one or more components of said registry component, said liveness component, said group services component and said resource management component (see col.9, lines 57-67).

As per claims 19, 43, and 67, Wipfel further teaches wherein the starting of one or more components satisfies at least one of one or more functional dependencies

between the one or more components and one or more data dependencies between the one or more components (see col.9, lines 38...).

As per claims 20, 44, and 68, Wipfel further teaches wherein said one or more components are started by the configuration component in a defined order (see col.6, line 67 to col.7, line 6).

As per claims 21, 45, and 69, Wipfel further teaches wherein said defined order comprises starting the registry component, and then the liveness component, the group services component and the resource management component (see col.8, lines 40-52).

As per claims 22, 46, and 70, Wipfel further teaches wherein said registry component begins a first phase of its initialization, in response to being started, said first phase of initialization comprising determining at least one copy of a global configuration database to be used in the starting (see col.7, lines (see Fig.7; col.9, lines 61-67; and col.15, line 61 to col.16, line 5).

As per claims 23, 47, and 71, Wipfel further teaches wherein said configuration component utilizes a copy of said at least one copy of the global configuration database to verify data, and then continue with starting the liveness component, the group services component and the resource management component (see col.8, lines 17-20).

As per claims 24, 48, and 72, Wipfel further teaches wherein said group services component completes its initialization, in response to the liveness component becoming available (see col.8, lines 57-64).

As per claims 25, 49, and 73, Wipfel further teaches wherein said registry component begins a second phase of its initialization, in response to the group services component completing initialization, said second phase of initialization comprising updating zero or more copies of the global configuration database to allow write operations against the global configuration database (see col.9, lines 48-52 and col.28, line 58).

As per claims 26, 50, and 74, Wipfel further teaches wherein said resource management component performs its initialization using said system registry component and said group services component (see col.9, line 32 to col.11, line 34).

As per claim 75, Wipfel further teaches wherein the configuration data comprises multiple node definitions for the multiple nodes (see col.2, lines 47-52; col.8, line 65 to col.9, line 2; and col.14, lines 3-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 76 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wipfel et al. (US 6338112 B1) in view of Thorbjornsen et al. (WO 96/37837).

As per claim 76, Wipfel does not explicitly teach wherein said computing environment is a shared nothing environment. Thorbjornsen teaches of a share nothing computer environment (see abstract, first sentence). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Thorbjornsen within the system of Wipfel by implementing a share nothing environment within the cluster managing system because Thorbjornsen teaches that within a share nothing architecture, the nodes are divided into groups because this provides multi-fault tolerance and fault masking (see page 6, lines 24-31). Therefore, by incorporating the teachings of Thorbjornsen within the system of Wipfel would provide multi-fault tolerance and fault masking to the cluster managing system.

Response to Arguments

5. Applicant's arguments filed June 8, 2004 have been fully considered but they are not persuasive. With the additional limitation added in the amendment, new reference locations have been provided. Clearly, in Fig.6, Wipfel teaches of a global register embodied in Fig.2, #114 or particularly Fig.2, #224, capable of storing global data comprising configuration data (see col.14, lines 1-8). Therefore, the rejections to the claims are maintained.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

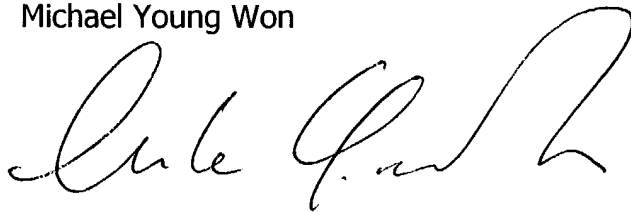
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2155

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Young Won



August 11, 2004



HOSAIN ALAM
SUPERVISORY PATENT EXAMINER